

Translation

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P60102PCT	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/DE00/00133	International filing date ( <i>day/month/year</i> ) 11 January 2000 (11.01.00)	Priority date ( <i>day/month/year</i> ) 21 January 1999 (21.01.99)
International Patent Classification (IPC) or national classification and IPC H01L 21/768, 21/288		
Applicant ATOTECH DEUTSCHLAND GMBH		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input checked="" type="checkbox"/> Certain observations on the international application</li> </ul>

Date of submission of the demand 27 July 2000 (27.07.00)	Date of completion of this report 30 October 2000 (30.10.2000)
Name and mailing address of the IPEA/EP	Authorized officer
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International application No.

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## I. Basis of the report

1. This report has been drawn on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

the international application as originally filed.

the description, pages 1-19, as originally filed,

pages \_\_\_\_\_, filed with the demand,

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

the claims, Nos. 1-9, as originally filed,

Nos. \_\_\_\_\_, as amended under Article 19,

Nos. \_\_\_\_\_, filed with the demand,

Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

the drawings, sheets/fig 1/1, as originally filed,

sheets/fig \_\_\_\_\_, filed with the demand,

sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

2. The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_

the claims, Nos. \_\_\_\_\_

the drawings, sheets/fig \_\_\_\_\_

3.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-9	YES
	Claims		NO
Inventive step (IS)	Claims	1-9	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

## 2. Citations and explanations

1. This report makes reference to the following document:

D1 DE-A-195 45 231 (ATOTECH DEUTSCHLAND GMBH) 22  
May 1997 (1997-05-22) cited in the application.

2. The document does not disclose all of the features of Claim 1. The fact that the method as described in D1 can also be used for semiconductor substrates instead of circuit boards cannot be deduced from D1. Moreover, in D1 there is no first coating of the substrate with a basic metal layer. Finally, in D1 there is no structuring of the copper layer.

D1 does not suggest a way of discovering the above features either.

Consequently, Claim 1 would meet the requirements of PCT Article 33(1) and (3).

3. Claims 2 to 9 relate to advantageous developments of the main claim.

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**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. The expressions "made of high-purity copper" and "with a high aspect ratio" used in Claim 1 are vague and not clear and leave the reader uncertain about the meaning of the relevant technical features. Consequently, the subject matter of this claim is not clearly defined (PCT Article 6).